

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT OFFICE

CATEGORICAL EXCLUSION/DECISION RECORD
FUEL HAZARD REDUCTION IN THE WILDLAND URBAN INTERFACE
Pleasant Fry Project
OR115-08-17

I. PROPOSED ACTION

A. Introduction to Proposed Action:

The Bureau of Land Management (BLM) proposes to reduce hazardous fuels (vegetation, alive or dead, which contributes to wildfire intensities) by understory thinning and prescribed burning on 986 acres of BLM-administered lands in the Wildland-Urban Interface (WUI) within the Pleasant Creek 6th Field Watershed. The project addresses the need to better protect the lives, property, and natural resources within the neighborhoods of Pleasant Creek Road from the risk of high intensity wild fires. This project was identified through a collaborative framework as described in “A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-Year Comprehensive Strategy Implementation Plan” (<http://www.fireplan.gov/reports/11-23-en.pdf>).

This project is tiered to the National Fire Plan. It is a collaborative effort with Seven Basin Fire Planning Steering Committee which includes the following members; Medford BLM, Oregon Department of Forestry (ODF), Southwest Oregon Research and Development Council, Oregon State University Extension Center, and the local residents in an effort to improve community awareness of wildfire issues and to reduce fire and safety risks to individuals, communities and wildland firefighters.

The areas identified under this project on BLM-administered lands are strategically located and would act as a continuation of hazardous fuels reduction projects, completed or approved on 900 acres on BLM-administered lands which are currently being implemented under the Battle Mtn Fuels Hazard Reduction in the Wildland Urban Interface Categorical Exclusion Decision Record (2005), and on more than 80 acres of adjacent private lands to further protect individuals and property from a wildfire event. In addition, all areas identified for treatment are in Condition Classes 2 or 3, and Fire Regime Groups 1 and 3.

Vegetation proposed to be removed includes noncommercial (less than 7 inches diameter at breast height) conifer trees, hardwoods and shrubs. The fuels management strategy is to reduce hazardous fuels which contribute to initiation of higher wildfire intensities and limit the capabilities of fire suppression resources. Manual and prescribed fire treatments would be applied on BLM-administered land.

B. Purpose of and Need for the Action

The purpose of this project is to lessen the potential damage and resistance to control of a wildfire initiated within, or adjacent to, the project area, and to help restore the natural (historic) fire regime within the project area.

The exclusion of frequent landscape wildfire has led to higher densities of small, noncommercial-sized conifers, hardwood trees, and shrubs (both live and dead) altering the once low intensity natural (historic) fire regime. Departure from the natural (historic) fire regime and increasing densities of flammable vegetation, have placed BLM and private lands at a higher risk of large-scale, high intensity wildfire with the potential to lose key ecosystem components. This became evident during the high intensity wildfire events which occurred in the Pleasant Creek 6th Field watershed. The 2,901 acre Grave Creek fire burned in 1978 and the Pleasant Creek fire which burn 1,241 acres in 1987.

There is a need to mitigate the risk to the local community, individuals, and environment from severe, unwanted and unplanned wildfire events which occur within and adjacent to the Pleasant Creek Road neighborhoods.

Residential density is high (527 dwellings) in this area, with most of the residents living along the Pleasant Creek Road corridor. With the exception of a few smaller tracts of land most of the land ownership along the Pleasant Creek Road corridor is privately owned. The Pleasant Creek Road neighborhoods are located just north of the Wildland-Urban Interface communities of Rogue River, and Wimer, which were listed as communities at risk (CAR) from wildfire as described in the August 17, 2001 Federal Register. The southern end of the project area falls within Fire District 6 protection area while the northern portion is out of the protection area. The Jackson County Classification Committee identified all the Pleasant Creek neighborhood areas as a rural area at risk from wildfires under the Oregon Forestland-Urban Interface Fire Protection Act of 1997. The committee's Forestland-Urban Interface Zone Classification for the Pleasant Creek Road neighborhood areas is extreme, indicating a very high risk from a wildfire event. A Wildland-Urban Interface (WUI) boundary was originally defined in the Southwest Oregon Interagency Fire Management Plan (2005), then again in the Seven Basins Community Wildfire Protection Plan (SBCWPP) (2006), and in the Jackson County Integrated Fire Plan (2006) which encompasses the entire Pleasant Creek 6th Field Watershed.

The Pleasant Creek 6th Field Watershed is one of twelve watersheds that have been identified as a high priority treatment area within the Seven Basins (CWPP).

The goals of the SBCWPP are to improve community awareness of wildfire issues; reduce fire and safety risks to individuals, communities, and wildland firefighters through strategic hazardous fuels reduction; promote and maintain active community involvement; continue collaborative efforts with federal, state, and local agencies and communities; and develop the ability to monitor changing fire risk conditions.

The SBCWPP identifies a three step process for addressing wildfire concerns in the Seven Basins watershed. They are;

1. Continue to prioritize defensible space work around the homesite and driveway.
2. Identify tactical opportunities for extended acreage work on those private properties where defensible space work has been completed.
3. Identify opportunities for strategic landscape-scale treatments that have potential to address landscape-scale fires.

The Seven Basins steering committee has estimated that approximately 75 to 85 percent of defensible space has been created throughout the Pleasant Creek 6th field watershed, and would continue to promote the importance of defensible space. In addition, efforts would continue to increase the reduction of hazardous fuels in a more tactical approach on private land. Through the use of fuels reduction grants, landowners have treated approximately 80 acres in the Pleasant Creek Road, beyond the 1 acre of defensible space recommended around home sites by the Seven Basins CWPP. Identification of strategic landscape scale treatments is on-going. BLM involvement is needed to address the need to provide strategic treatments in combination with the projects completed on private providing increased protection to lives, property, and natural resources from the risk of high intensity wildland fires at a strategic landscape-scale level.

C. Location:

The project is located in Butte Falls Resource Area, in the Pleasant Creek Sixth Field Watersheds, T.34S.–R.4W.–Sections 1, 5, 7, 9, 13, 17, 27, 31, and 32. (See Table 1, and the attached map).

D. Description of the Proposed Action:

The objective on BLM-administered lands is to decrease the likelihood of high intensity fire behavior which can potentially damage natural resources, homes, and threaten the safety of individuals and firefighters. The proposed action would reduce the vertical continuity of hazardous fuels (ladder fuels) on 986 acres (See Table 1 for proposed treatments) which allow fire to carry from the surface fuels into the crowns of trees and/or shrubs while retaining the species composition and diversity.

Understory Thinning:

Thinning of the understory vegetation would be accomplished manually using hand crews with chain saws. All cut material would be hand piled and burned. The understory vegetation would be reduced by the cutting and spacing of conifers and hardwoods between 1 inch and 7 inches diameter at breast height (dbh), and shrubs less than 10 inches diameter at one foot above ground level. All conifers and hardwoods greater than 8 inches dbh would be reserved. Sugar pine, silk tassel, ninebark, hazel, mountain mahogany and riparian species (e.g. maple, alder, willow, ash, and yew wood) would be reserved. Snags larger than 8 inches dbh would be retained unless identified as a hazard to workers. If felled, snags would remain in place.

Treatment prescriptions guidelines would be based on the dominant vegetation types found

in each unit. Vegetation spacing would vary, and is dependent on location, site conditions, species, and structural diversity. Overall vegetation spacing would vary dependent on the location of the unit. For example, areas identified for treatment which provide defensible space adjacent to private property would be greater while others areas would be spaced to promote healthy forest development. Spacing should not exceed 45 feet between the boles of remaining trees less than 8 inches in diameter. The largest, healthiest, and best-formed trees, with at least 40 percent crown ratio, would be selected as leave trees. When multiple species occur within a group for thinning, preference would be given to leave sugar pine species followed by ponderosa pine, hardwoods, incense cedar, Douglas-fir, and shrubs.

Hand Piling and Hand Pile Burning:

Hand piling would coincide with understory thinning operations. All material between 1" and 7" in diameter, and greater than 2' in length would be hand piled. Minimum hand pile size would be 5' in height by 6' in diameter. Number of piles per acre would range from 45 to 95. Hand piling and burning would reduce 85 to 95 percent the slash created from harvest activities and left on site. Each pile would be covered by a 6'X 6' piece of polyurethane plastic.

Hand piles would need to cure for 6 months to a year before burning, once cured, piles would be burned from October 15 to March 30, after one or more inch of precipitation has occurred. Piles are burned during this season to reduce the potential for fire to spread outside each pile, and to reduce the potential for scorch and mortality to the residual trees and shrubs. Patrol and mop-up of burning piles would occur when needed to prevent treated areas from re-burning or becoming an escaped fire.

Pruning: Pruning of trees 4" to 10" dbh up to a height of 6 feet would help to minimize the mortality rate, increase canopy base height, and help reduce the potential scorching or torching of residual trees during underburning operations.

Underburning and Handline construction:

Underburning would be considered a third level treatment following understory thinning and hand pile burning treatments. The application of prescribed fire would be to maintain the low fuels profiles created with the initial understory thinning treatments, and enhance the desired fuel conditions, such as, low surface fuels loading and decreased ladder fuel component. Areas identified to receive underburning treatments would occur where fire exclusion has altered stand composition, structure, and diversity. This application of prescribed fire would occur within two to seven years of the initial thinning treatments. Underburning would occur where it is operationally feasible based on; access, the ability to minimize the potential of an escape, and limit fireline construction. The intention is to minimize the potential of an escape by utilizing existing roads and topographic features which would enhance tactical holding opportunities, and further reduce the fuel hazard. In addition, underburning would be conducted in a manner that would minimize damage to reserve trees, duff, and soil, and to avoid loss of large, coarse woody debris.

Underburning would occur from late October to May, after the close of fire season or snow melt off, when 1000 hr fuels moistures are greater than 20 percent and soil moisture is 25 percent at a depth of 1 inch. It is estimated that approximately 75 to 90 percent of the

surface area would be burned; consuming 85 to 90 percent of the fine fuels 1 to 3 inches in diameter. Mortality of the overstory trees greater than 10" dbh would be less than 5%. Mortality of trees between 4" to 10" dbh would range between 5 to 15 percent, with greater mortality in the smaller diameter trees and in areas where fuel concentrations are greater than 15 tons/acre. Mortality of trees smaller than 4" dbh could be as high as 20 percent.

All fireline would be constructed by hand, dug down to mineral soil and be less than 3' wide. When a unit boundary is identified along a riparian reserve, the natural occurring higher fuel moistures or moisture of extinction would be utilized to control the fire edge (riparian control line). If the moisture of extinction is not met then construction of fireline would be necessary. If fireline construction is needed through riparian reserves, they would be constructed on the day of the burn or up to 48 hours prior to ignition, and would be rehabbed after unit is declared out.

All prescribed burning (underburning, hand pile burning, and burning of landing piles) would have an approved prescribed fire plan prior to ignition and in compliance with "*Interagency Prescribed Fire Planning and Implementation Procedures Reference Guide*" (2006 Guide). The prescribed burn plan would contain measurable objectives, a predetermined prescription, and an escape fire plan to be implemented in the event of an escape. Prescribed burning would comply with Oregon Department of Forestry's Smoke Management Plan.

All prescribed burning would be managed in a manner consistent with the requirements of the Department of Forestry's Smoke Management Plan and the Department of Environmental Quality's Air Quality and Visibility Protection Program. Smoke would be managed to preclude intrusion into air quality maintenance areas when air stagnation conditions exist. Additional measures to reduce the potential level of smoke emissions would include: mop-up to be completed as soon as practical after the fire, burning with lower fuel moisture in the smaller fuels to facilitate their quick and complete combustion, burning with higher fuel moisture in the larger fuels to minimize consumption and burn out time of those fuels, and covering hand piles to permit burning during the rainy season where there is a stronger possibility of atmospheric mixing and/or scrubbing.

Table 1: Pleasant Fry Fuel Hazard Reduction Units. Proposed fuels reduction treatments are identified for each unit. Treatments include understory thinning, pruning, hand piling and hand pile burning, hand line construction, and underburning. See attached map for unit location.

Unit #	Acres	Legal	Proposed Fuels Treatments
101	14	34S-4W-Sec.1	Understory thin, pruning, hand pile and burn, underburn, hand line construction
102	13	34S-4W-Sec.1	Understory thin, pruning, hand pile and burn
131	14	34S-4W-Sec.13	Understory thin, hand pile and burn
320	44	34S-4W-Sec.32	Understory thin, pruning, hand pile and burn
321	7	34S-4W-Sec.32	Understory thin, pruning, hand pile and burn
322	31	34S-4W-Sec.32	Understory thin, pruning, hand pile and burn
500	88	35S-4W-Sec. 5	Understory thin, pruning, hand pile and burn
700	43	35S-4W-Sec. 7	Understory thin, pruning, hand pile and burn, underburn, hand line construction
701	6	35S-4W-Sec. 7	Understory thin, pruning, hand pile and burn
702	31	35S-4W-Sec. 7	Understory thin, pruning, hand pile and burn, underburn, hand line construction
703	13	35S-4W-Sec. 7	Understory thin, pruning, hand pile and burn
704	20	35S-4W-Sec. 7	Understory thin, pruning, hand pile and burn, underburn, hand line construction
900	43	34S-4W-Sec. 9	Understory thin, pruning, hand pile and burn
901	42	34S-4W-Sec. 9	Understory thin, pruning, hand pile and burn
902	47	34S-4W-Sec. 9	Understory thin, pruning, hand pile and burn, underburn, hand line construction
172	6	35S-4W-Sec.17	Understory thin, pruning, hand pile and burn
173	88	34S-4W-Sec. 17	Understory thin, pruning, hand pile and burn, underburn, hand line construction
174	6	T34S-R4W-Sec. 17	Prune, underburn
175	3	34S-4W-Sec. 17	Prune, underburn
176	7	34S-4W-Sec. 17	Prune, underburn
270	239	34S-4W-Sec. 27	Understory thin, pruning, hand pile and burn, underburn, hand line construction
271	97	34S-4W-Sec. 27	Understory thin, pruning, hand pile and burn
313	17	34S-4W-Sec. 31	Understory thin, pruning, hand pile and burn, underburn, hand line construction
314	43	34S-4W-Sec. 31	Understory thin, pruning, hand pile and burn, underburn, hand line construction
315	9	34S-4W-Sec. 31	Understory thin, pruning, hand pile and burn
316	15	34S-4W-Sec. 31	Understory thin, pruning, hand pile and burn

II. PROJECT DESIGN FEATURES (PDF)

Project Design Features are included in this project to reduce potential impacts to natural resources and to ensure the proposed vegetation and fuel reduction treatments are consistent with resource management objectives.

A. Riparian Reserves

- To ensure existing shade levels along streams are maintained, vegetation treatment would not occur in the following areas: within 50 feet of fish-bearing and perennial streams and within 25 feet of intermittent streams.
- Hand piles would not be placed or burned within 50 feet of fish-bearing and perennial streams and within 25 feet of intermittent streams. Piles would not be placed in channel bottoms.
- Fuels would not be treated within inner gorge slopes 35 percent or greater along all streams.

B. Wildlife and Botanical

- Special status species wildlife sites would be buffered according to the management recommendations for that species in effect at the time of treatment. Buffer size and strategy would be dependent on site-specific conditions, proposed treatments and species involved. Fuels treatment could take place within these buffers if the species or specific habitat characteristics are not adversely impacted.
- Special status plant sites would be buffered according to management recommendations for that species in effect at the time of treatment. Buffer sizes would be dependent on site-specific conditions, proposed treatments and species involved. Understory burning may occur through some vascular plant sites during plant dormancy.
- There are no Seasonal restrictions identified for the Pleasant Fry Units.

C. Cultural Resources

- Site-specific protection and mitigating measures would be implemented to preserve the integrity of all existing and discovered cultural and national historic sites and would be completed in consultation with a BLM cultural specialist.

D. Noxious Weeds

- To reduce the risk of spread of noxious weeds in the fuels treatment units, native grass seed will be spread on burned pile areas at sites containing known noxious weed populations. Seed will be applied after piles are burned. Native seed of grass or forb species indigenous to the site will also be sowed on burned piles in areas with exotic grass species as resources allow.

E. Vegetation / Fuel Treatment

- Approximately 10 to 15 percent of each unit would be left untreated. This would include untreated riparian buffers and special status plant and wildlife buffers.

III. PLAN CONFORMANCE

The proposed action is in conformance with:

- *Final Supplemental Environmental Impact Statement and Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl* (Northwest Forest Plan FSEIS, 1994 and ROD, 1994);
- *Final-Medford District Proposed Resource Management Plan/Environmental Impact Statement and Record of Decision* (EIS, 1994 and RMP/ROD, 1995);
- *Final Supplemental Environmental Impact Statement: Management of Port-Orford-Cedar in Southwest Oregon* (FSEIS, 2004 and ROD, 2004);
- *Record of Decision To Remove the Survey and Manage Mitigation Measure Standards and Guidelines from the Bureau of Land Management Resource Management Plans Within the Range of the Northern Spotted Owl* (USDI 2007); and
- *Medford District Integrated Weed Management Plan Environmental Assessment* (1998) and tiered to the *Final-Northwest Area Noxious Weed Control Program Environmental Impact Statement* (EIS, 1985).

IV. COMPLIANCE WITH THE NATIONAL ENVIRONMENTAL POLICY ACT

A. Applicable Categorical Exclusion Determination

The Proposed Action is categorically excluded from further documentation under the National Environmental Policy Act (NEPA) in accordance with 516 DM 2, Appendix 1, 1.12 and 516 DM 11.9 C (4).

516 DM 2, Appendix 1, 1.12

Hazardous fuels reduction activities using prescribed fire not to exceed 4,500 acres, and mechanical methods for crushing, piling, thinning, pruning, cutting, chipping, mulching, and mowing, not to exceed 1,000 acres. Such activities: Shall be limited to areas (1) in wildland-urban interface and (2) Condition Classes 2 or 3 in Fire Regime Groups I, II, or III, outside the wildland-urban interface; Shall be identified through a collaborative framework as described in “A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Comprehensive Strategy Implementation Plan;” Shall be conducted consistent with agency and Departmental procedures and applicable land and resource management plans; Shall not be conducted in wilderness areas or impair the suitability of wilderness study areas for preservation as wilderness; Shall not include the use of herbicides or pesticides or the construction of new permanent roads or other new permanent infrastructure; and may include the sale of vegetative material if the primary purpose of the activity is hazardous fuels reduction. (Refer to the Environmental Statement Memoranda Series for additional, required guidance.)

516 DM 11.9 C (4)

Precommercial thinning and brush control using small mechanical devices.

There are no extraordinary circumstances potentially having effects which may significantly affect the environment. The application of this categorical exclusion is therefore appropriate for the Pleasant Fry project (see Map). The Proposed Action has been reviewed to determine if any of the environmental elements are affected (see NEPA Categorical Exclusion Review).

V. PERSONS AND AGENCIES CONSULTED

The Pleasant Creek Road neighborhoods were identified by the Seven Basins Fire Plan Steering Committee (SBFPSC) in the Seven Basins Community Wildfire Plan as a Wildland Urban Interface area at high risk from wildfires. The SBWSC key members are Oregon Department of Forestry, Seven Basins Watershed Council, Oregon State University Extension, and Medford District BLM Butte Falls Resource Area. Some residents within the Pleasant Creek Road area have completed, or are in the process of completing, hazardous fuels reduction work on private lands adjacent to BLM-administered land. This proposal was reviewed with the Seven Basins Fire Plan Steering Committee.

VI. CONTACT PERSON

For additional information concerning this project, contact Leanne Mruzik, Fuels Management Specialist, Medford District BLM, Butte Falls Resource Area at 541-618-2419.

VII. PROTEST PROVISIONS:

This decision is subject to protest by the public. To protest this decision, a person must submit a signed, written protest to Field Manager, Butte Falls Resource Area, 3040 Biddle Road, Medford, Oregon 97504 by the close of business (4:00 P.M.) not more than 15 days after publication of the Notice of Decision. The protest must clearly and concisely state the reasons why the decision is believed to be in error.

VIII. IMPLEMENTATION DATE:

If no protest is received by the close of business (4:00 P.M.) within 15 days after publication of the Notice of Decision, this decision will become final and may be implemented immediately. If a timely protest is received, this decision will be reconsidered in light of the statements of reasons for the protest and other pertinent information available and a final decision will be issued which will be implemented in accordance with regulation.

IX. DECISION AND DECISION RATIONALE

The proposed action has been reviewed by the Butte Falls Resource Area resources staff. I have reviewed this Categorical Exclusion and have determined that the Proposed Action is in conformance with the approved land use plan and that it complies with criteria for the categorical exclusions as described under Department of Interior Manual 516 DM 2.3A. None of the exceptions to categorical exclusion apply nor are any of the environmental impacts to the elements of the environment considered to be significant. Therefore, an environmental assessment or an environmental impact statement is not needed. It is my decision to implement the proposed action in accordance with 43 CFR 5003 – Administrative Remedies.

Based on the attached NEPA COMPLIANCE CATEGORICAL EXCLUSION REVIEW, I have determined the proposed action involves no significant impacts to the human environment and no further environmental analysis is required. These actions meet the need for action. It is my decision to implement the hazardous fuels reduction activities starting in April 2008.



Christopher J. McAlear
Field Manager
Butte Falls Resource Area

03 APRIL 2008

Date

NEPA Categorical Exclusion Review

Proposed Action:

Department of the Interior Manual 516 2.3.A(3) provides for a review of the following criteria for categorical exclusion to determine if exceptions apply to the proposed action based on actions which may:

1. Have significant impacts on public health or safety.

☐ Yes ☒ No

Initial RW Remarks:

2. Have significant impacts on such natural resources and unique geographic characteristics as historic or cultural resource; park, recreation, or refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands (Executive Order 11990); floodplains (Executive Order 11988); national monuments; migratory birds; and other ecologically significant or critical areas.

☐ Yes ☒ No

Initial RW Remarks:

3. Have highly controversial environmental effects or involve unresolved conflicts concerning alternative uses of available resources [NEPA Section 102(2)(E)].

☐ Yes ☒ No

Initial RW Remarks:

4. Have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks.

☐ Yes ☒ No

Initial RW Remarks:

5. Establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects.

☐ Yes ☒ No

Initial RW Remarks:

6. Have a direct relationship to other actions with individually insignificant but cumulatively significant environmental effects.

☐ Yes ☒ No

Initial KBL Remarks: Watershed

7. Have significant impacts on properties listed, or eligible for listing, on the National Register of Historic Places as determined by either the bureau or office.

☐ Yes ☒ No

Initial AK Remarks:

8. Have significant impacts on species listed, or proposed to be listed, on the List of Endangered or Threatened Species, or have significant impacts on designated Critical Habitat for these species.

Plants ☐ Yes ☒ No Initial mw Remarks: no T&E plants; sensitive plants buffered

Animals ☐ Yes ☒ No Initial LA Remarks:

Fish ☐ Yes ☒ No Initial SL Remarks: PDFs will protect water quality

9. Violate a Federal law, or a State, local, or tribal law or requirement imposed for the protection of the environment.

☐ Yes ☒ No

Initial RW Remarks:

10. Have a disproportionately high and adverse effect on low income or minority populations (Executive Order 12898).

☐ Yes ☒ No

Initial RW Remarks:

11. Limit access to and ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites (Executive Order 13007).

☐ Yes ☒ No

Initial SR Remarks:

12. Contribute to the introduction, continued existence, or spread of noxious weeds or nonnative invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species (Federal Noxious Weed Control Act and Executive Order 13112).

☐ Yes ☒ No with PDF

Initial mw Remarks:

Reviewers:

Name	Title	Date	Initials
Robyn Wicks	NEPA Coordinator	4/2/08	RW
Marcia Wineteer	Botanist	4/1/08	mw
Linda Hale	Wildlife Biologist	4/1/08	LH
Steve Liebhardt	Fisheries Biologist	4/1/08	SL
Ken Van Etten	Soil Scientist	4/1/08	KBL
Leanne Mruzik	Fire/Fuels Specialist	4/1/08	LM
Ann Ramage	Archaeologist	4-1-08	AR

